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FIG.1A

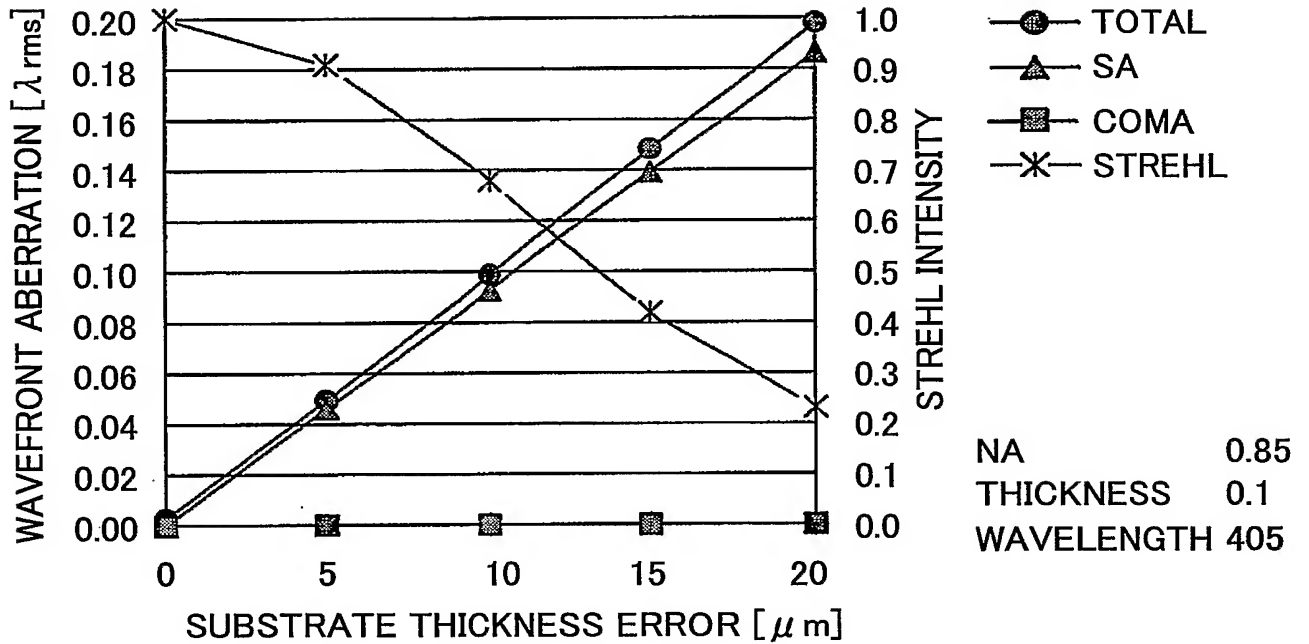
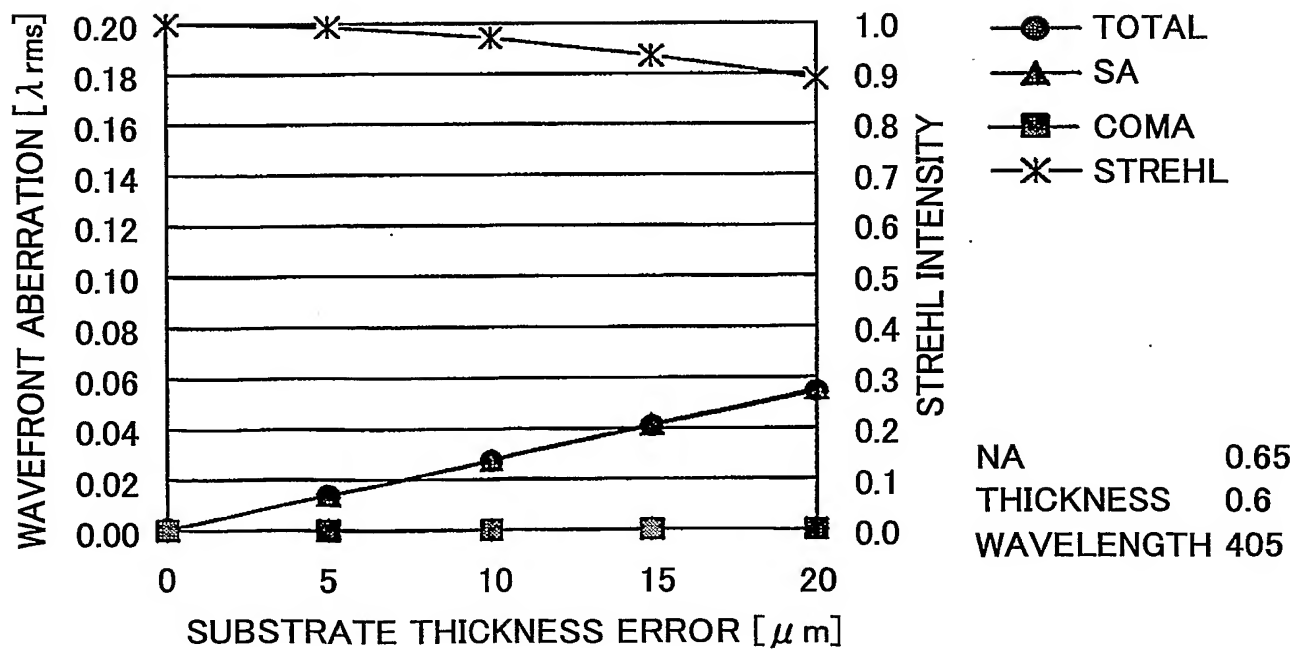


FIG.1B



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FIG.2A

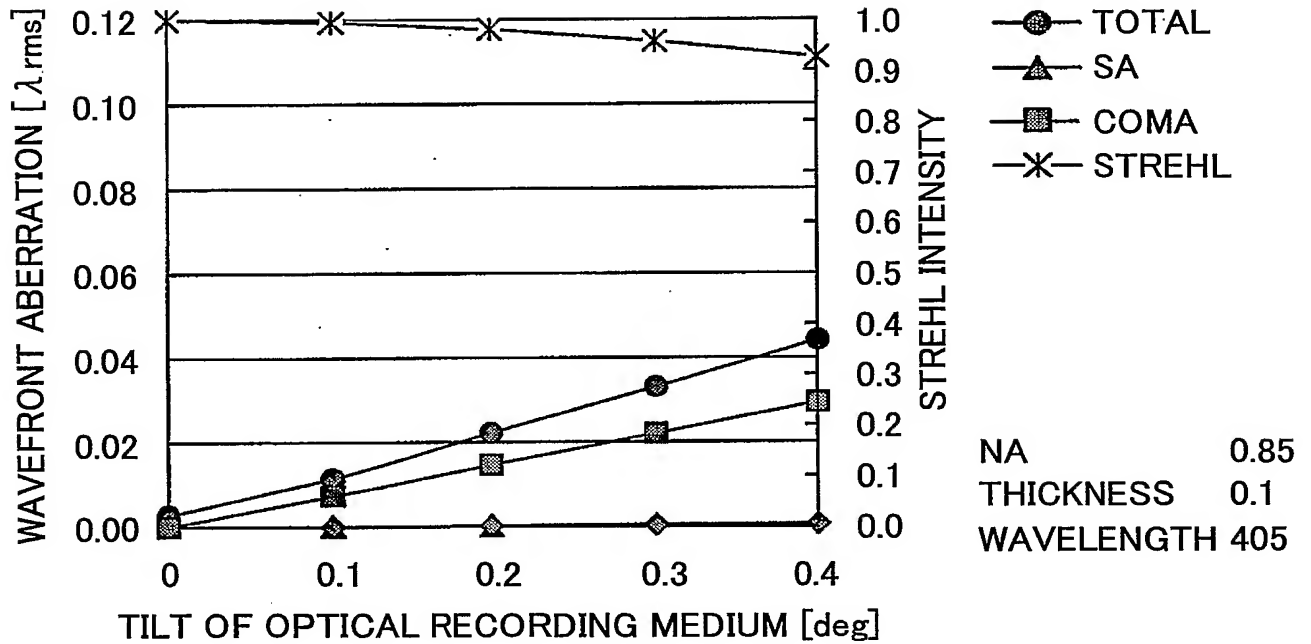
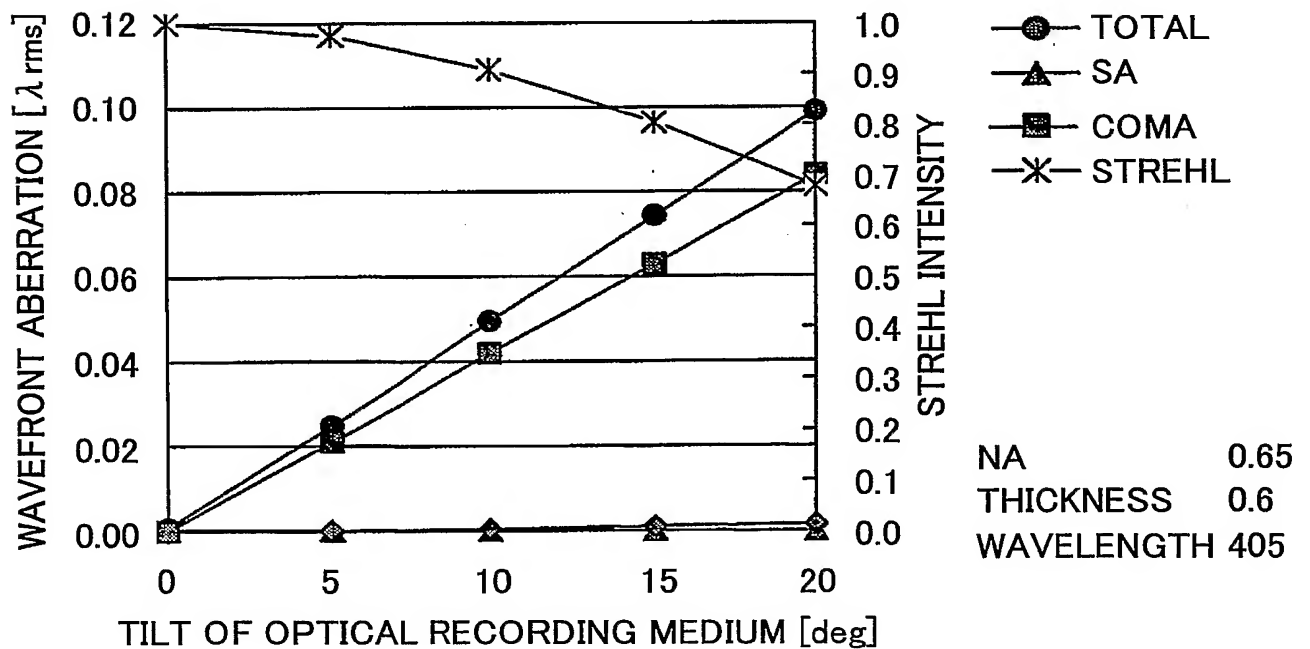
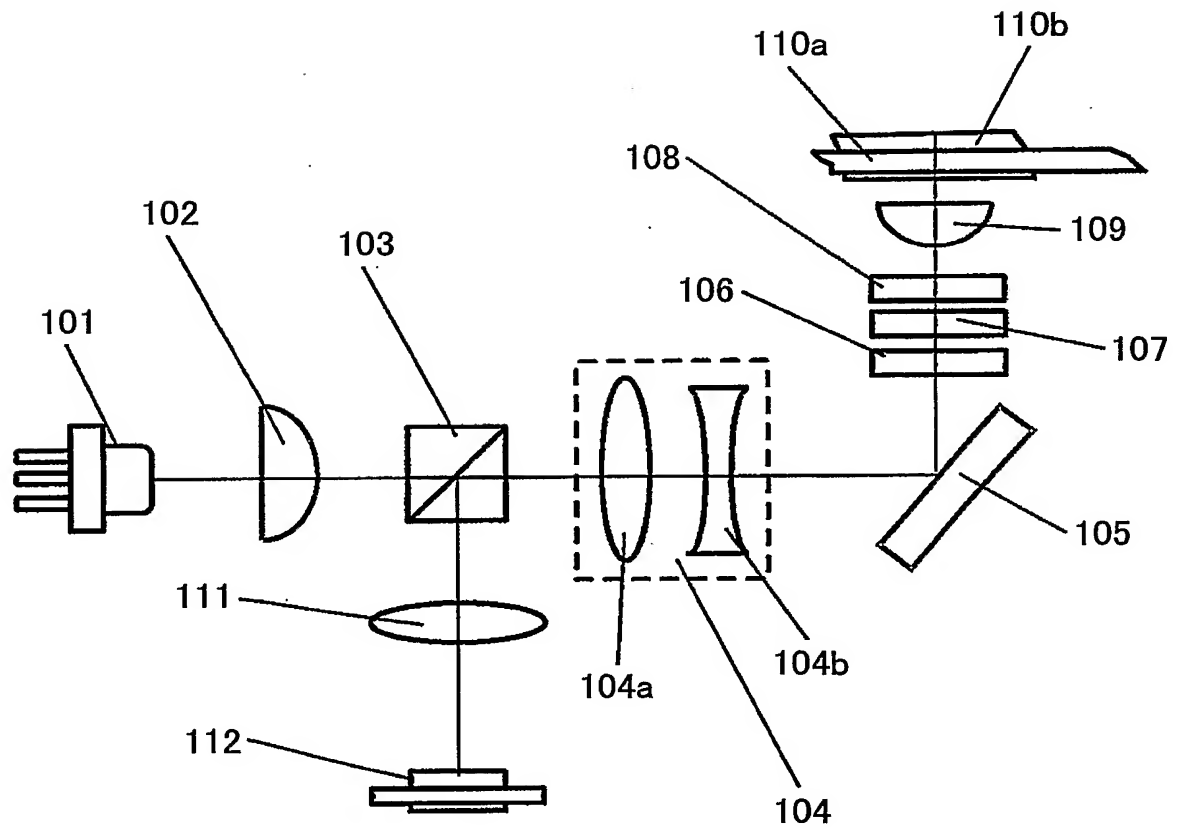


FIG.2B



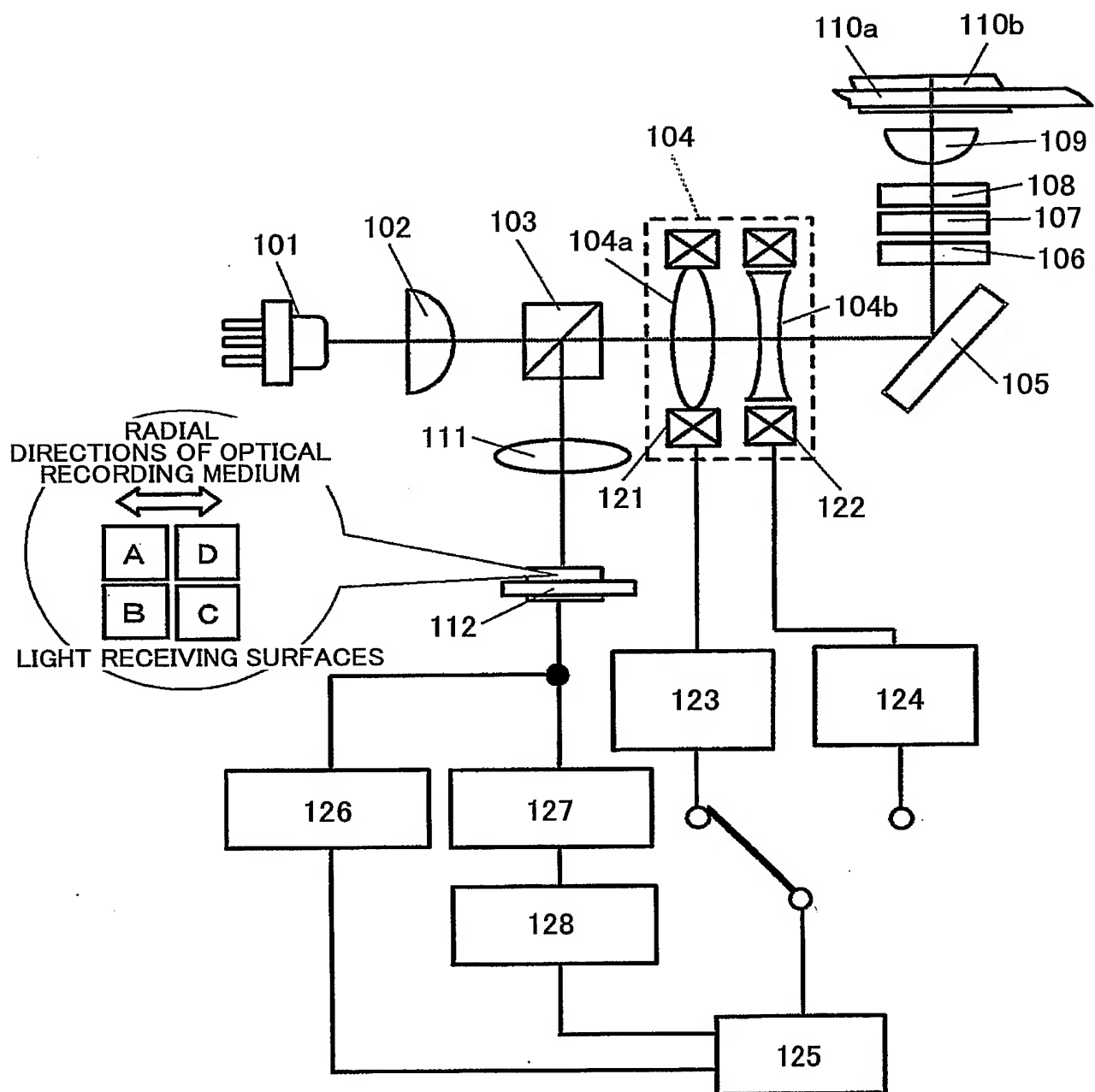
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FIG.3



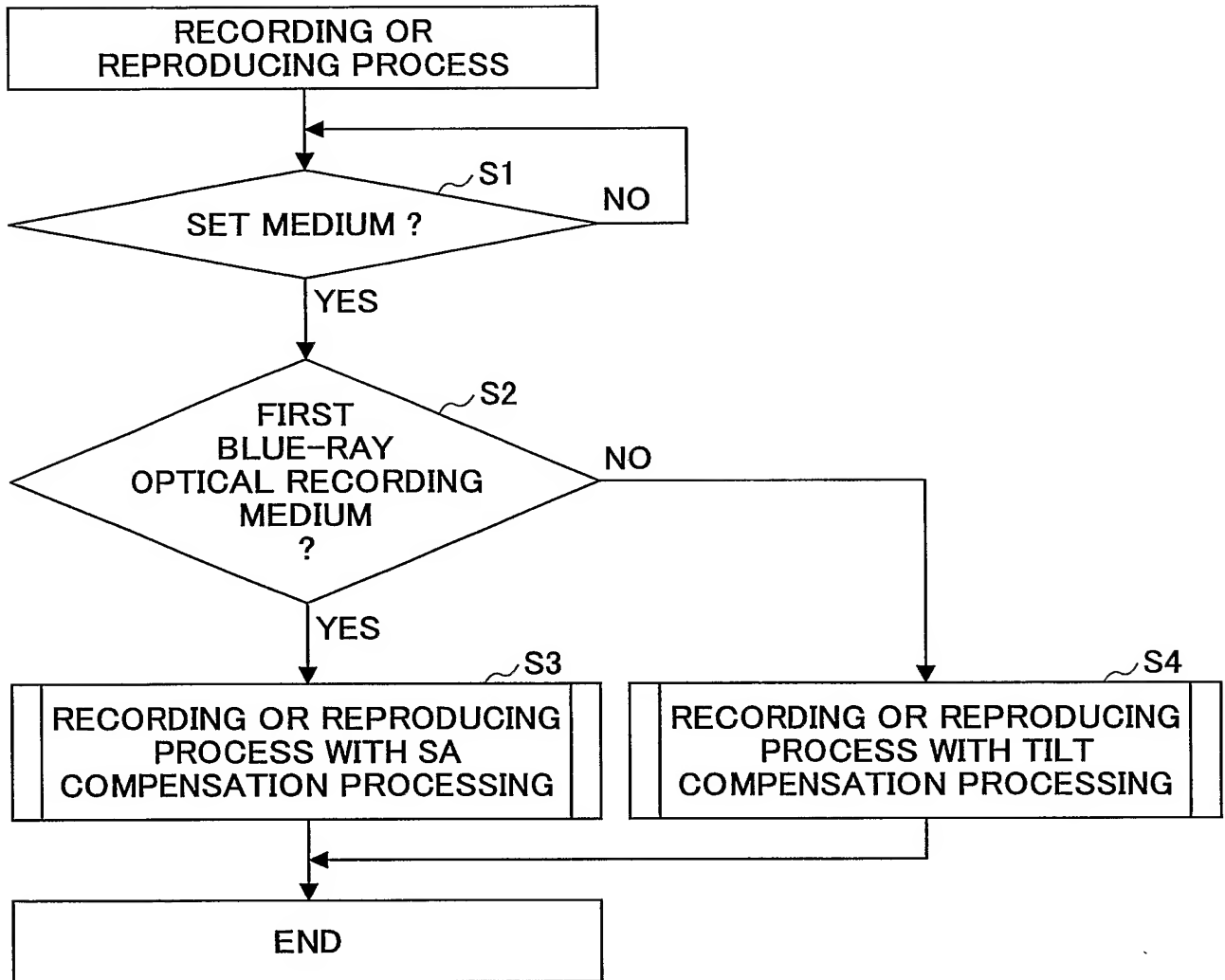
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FIG.4



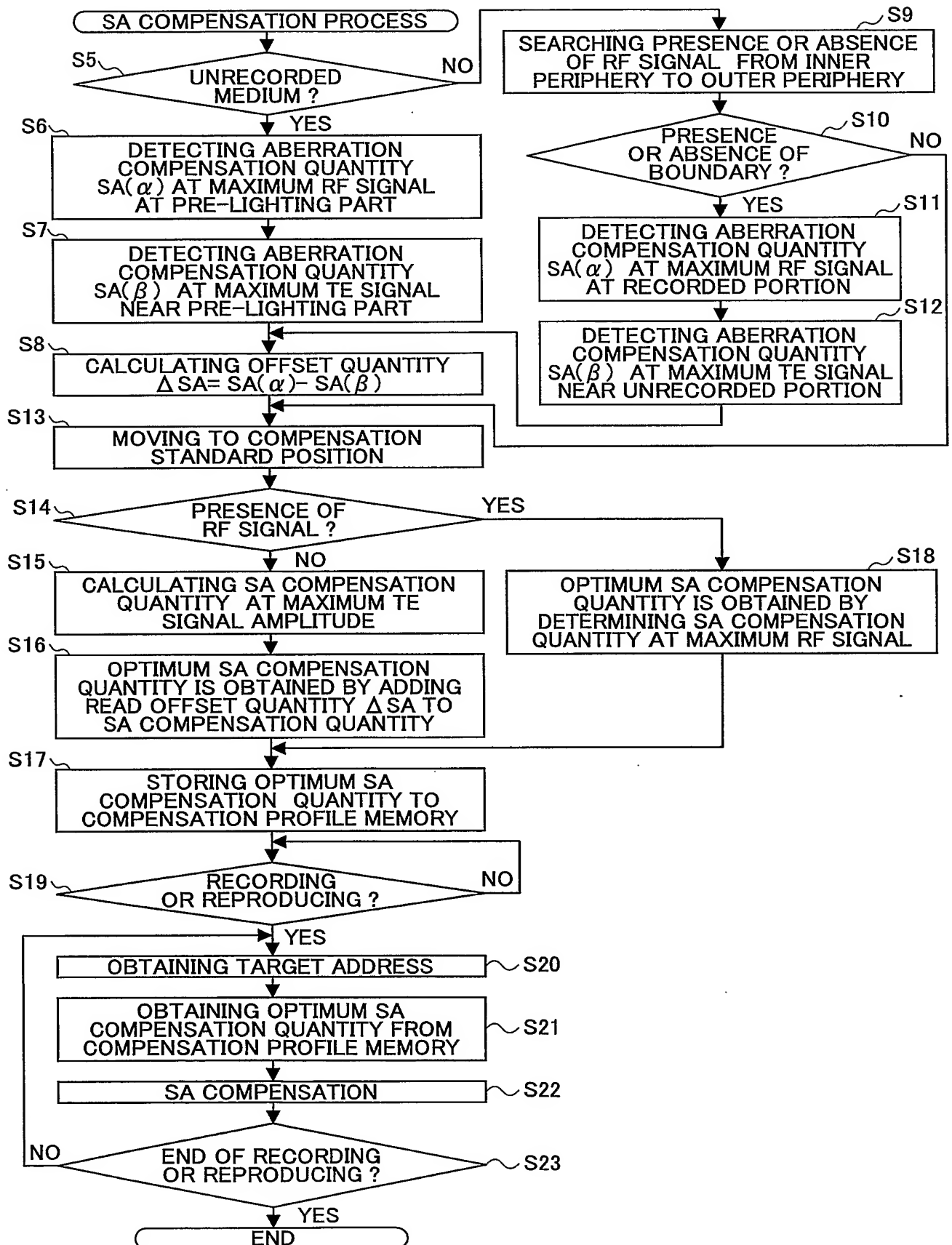
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FIG.5



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FIG.6



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FIG.7A

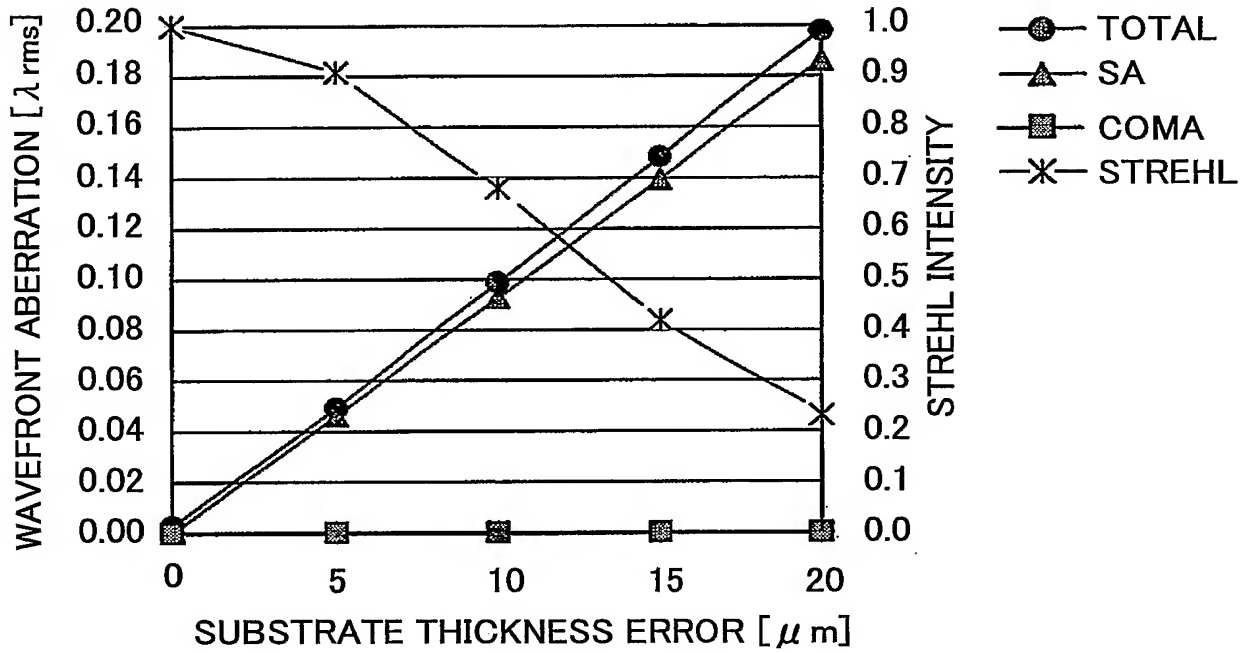
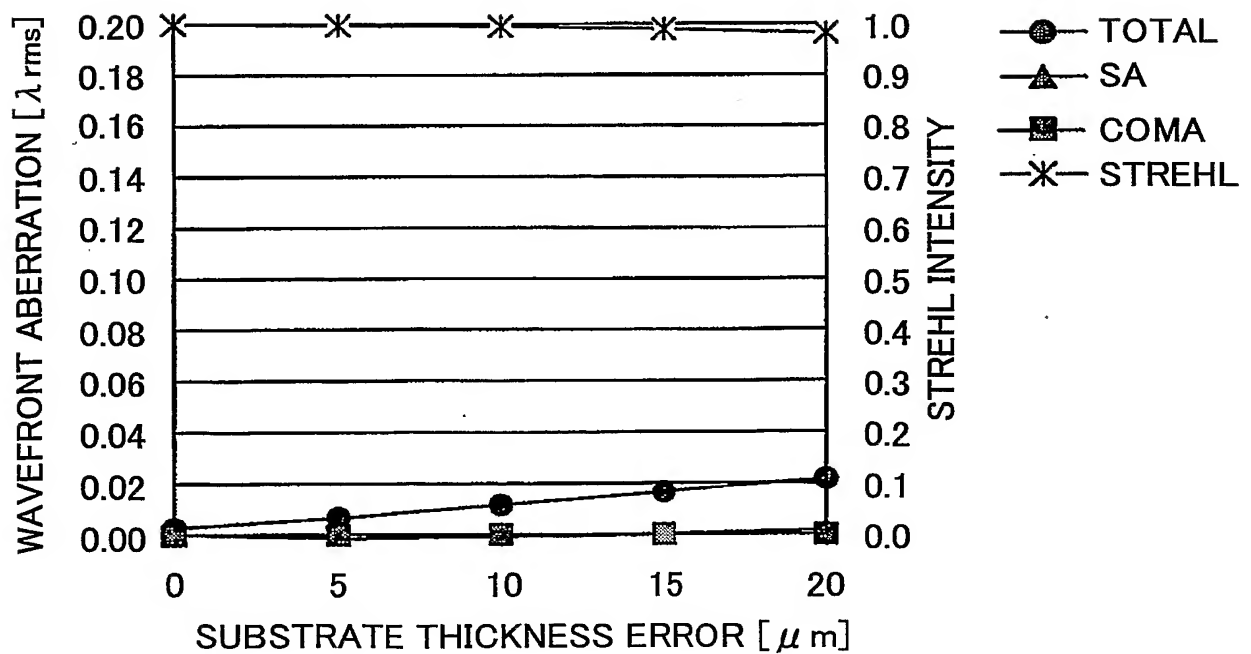


FIG.7B



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FIG.8A

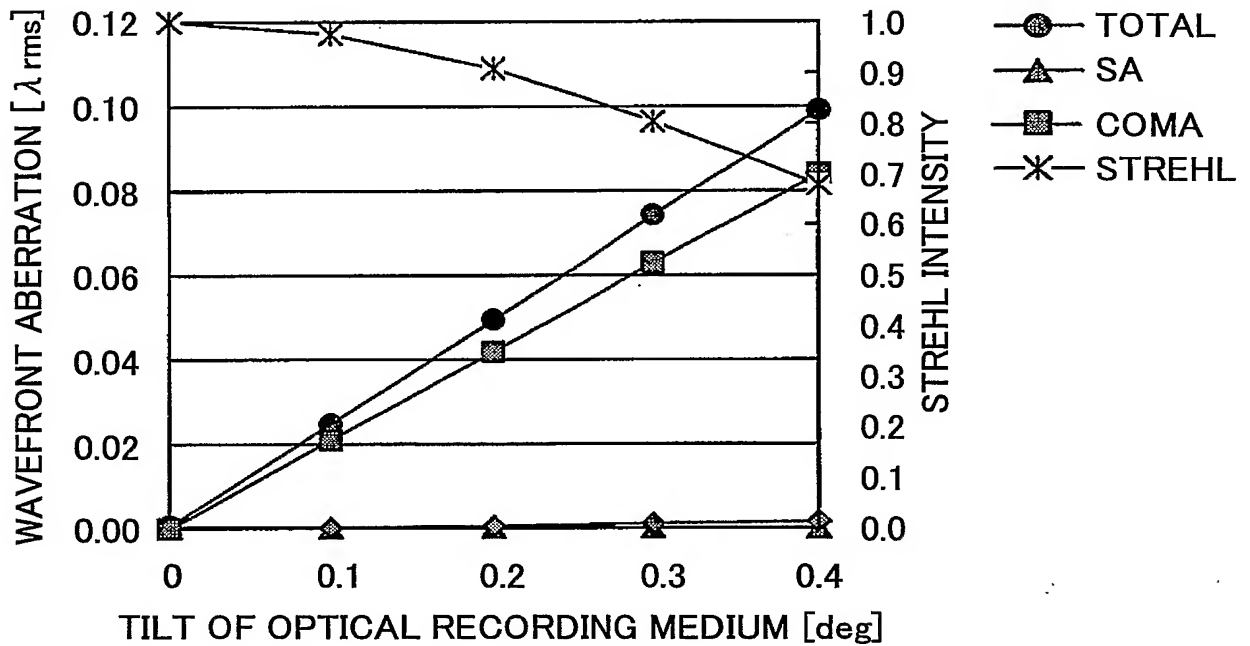
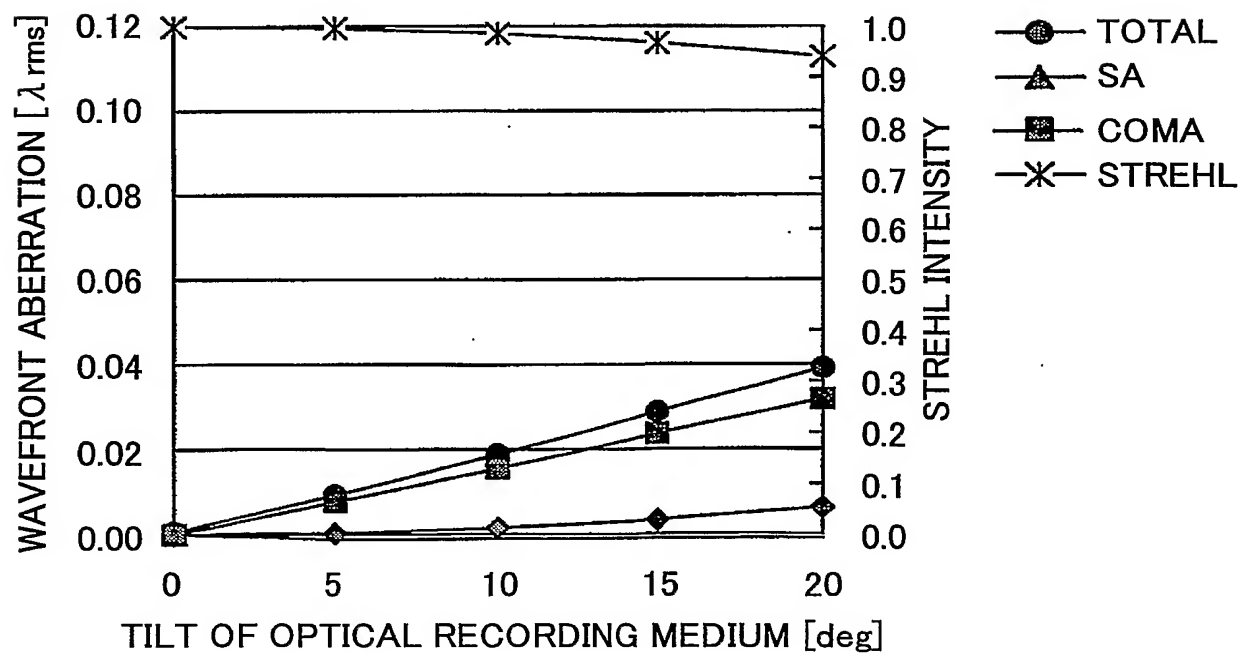


FIG.8B





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FIG.9A

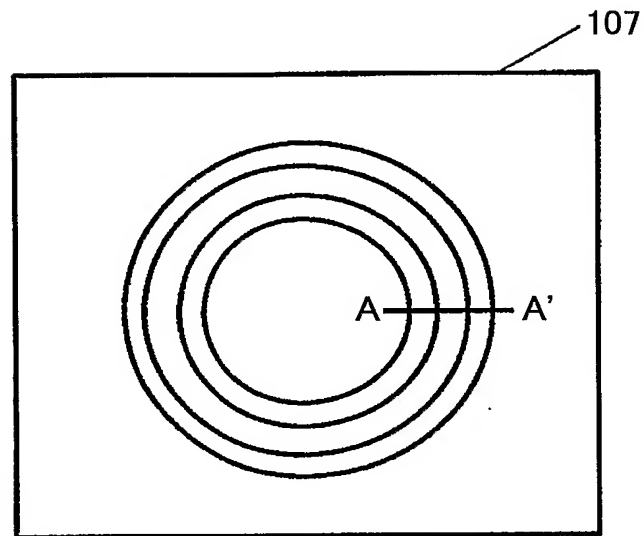


FIG.9B

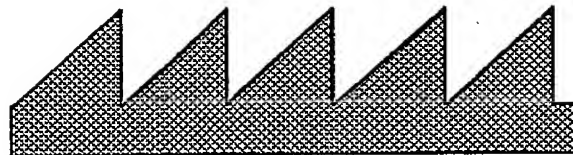
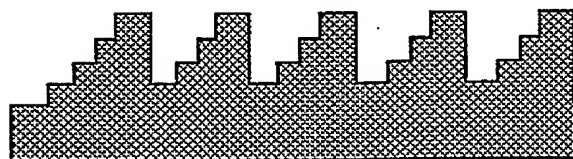


FIG.9C



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FIG.10A

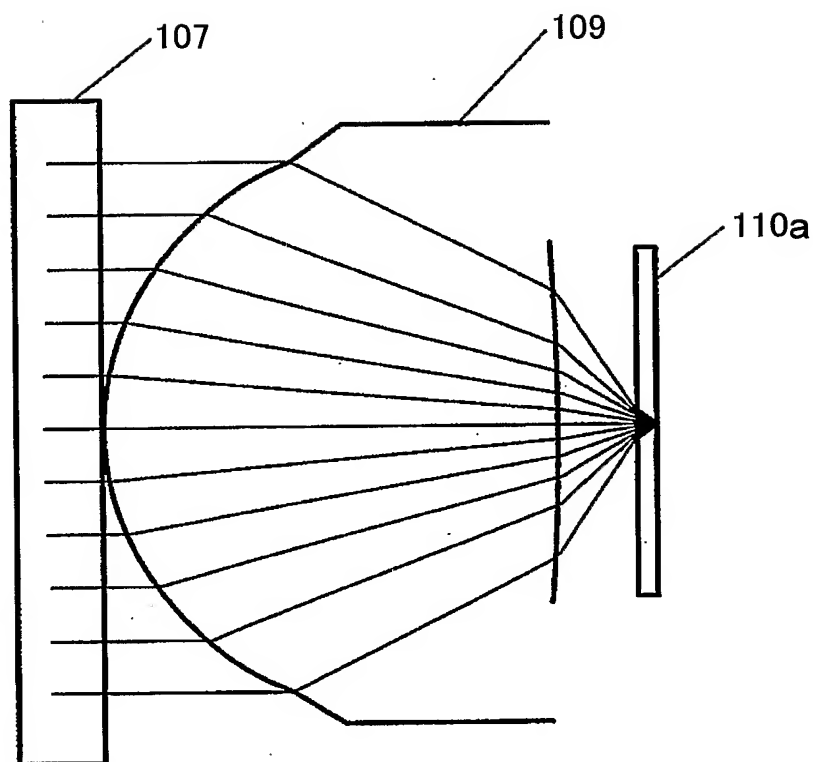
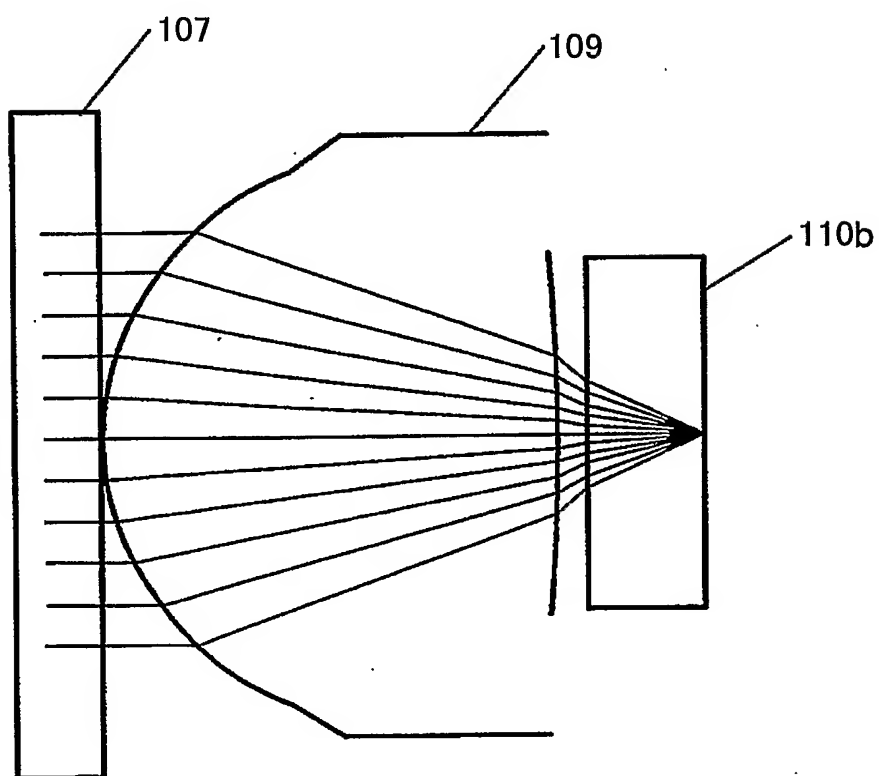
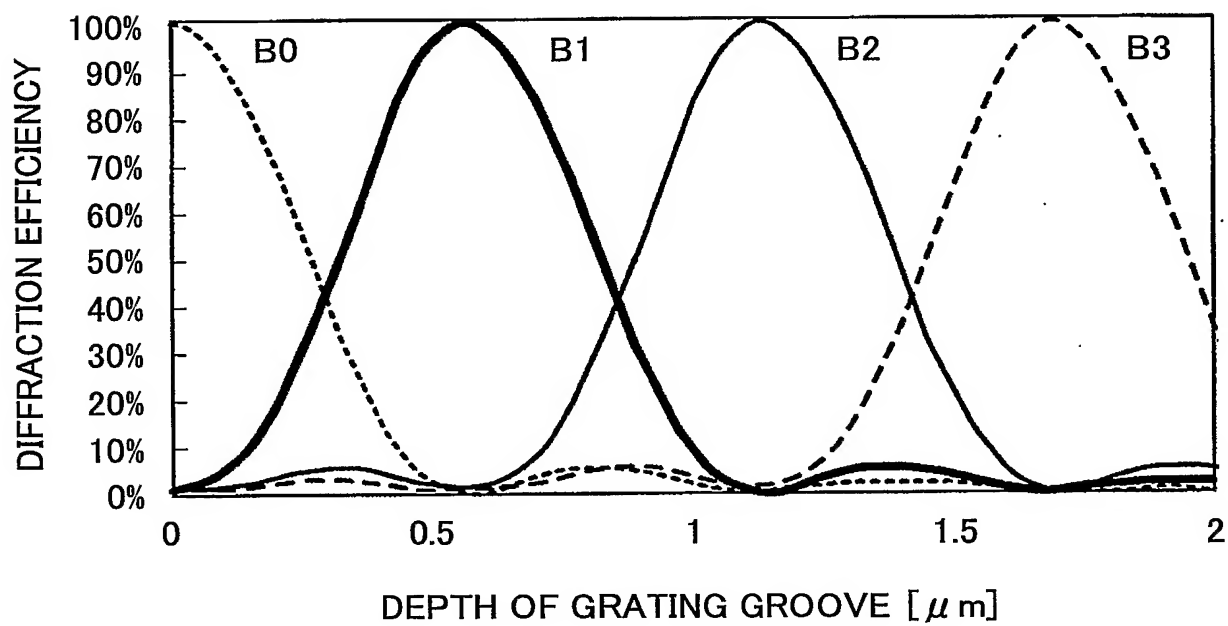


FIG.10B



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FIG.11



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FIG.12A

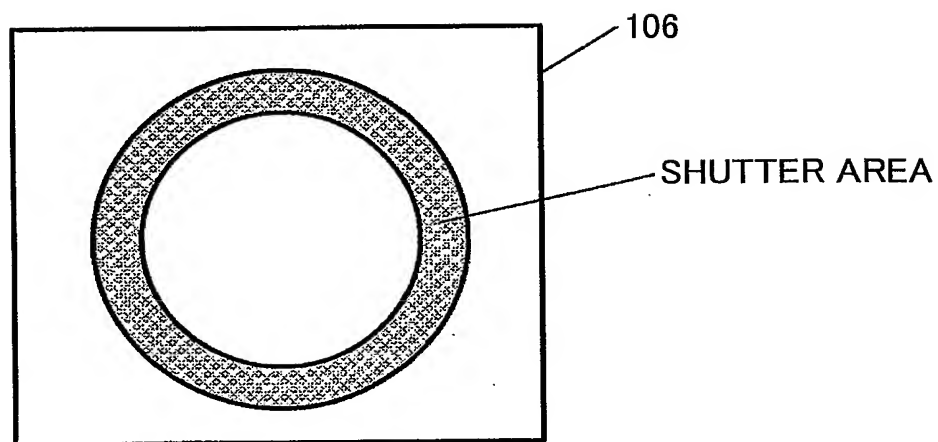
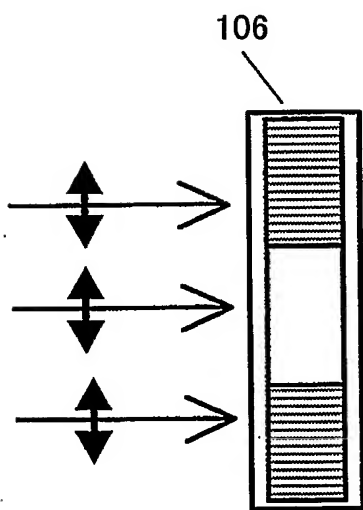
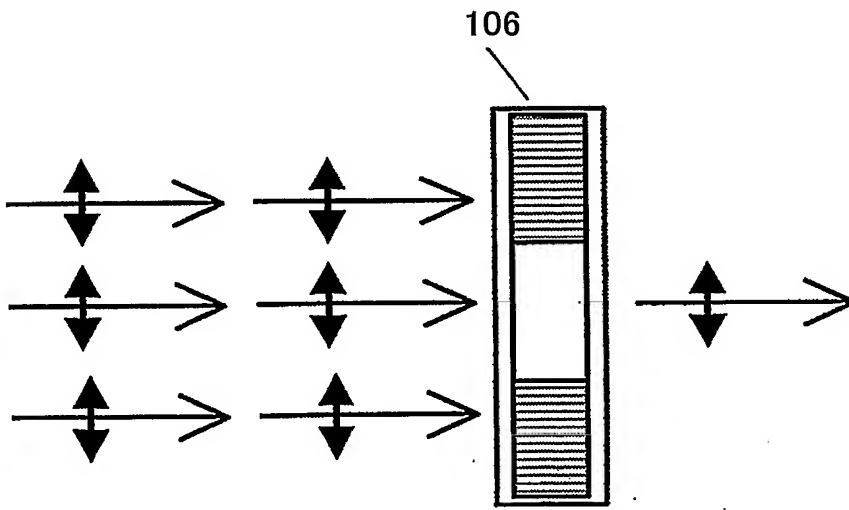


FIG.12B



LIQUID CRYSTAL: OFF

FIG.12C



LIQUID CRYSTAL: ON

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FIG.13A

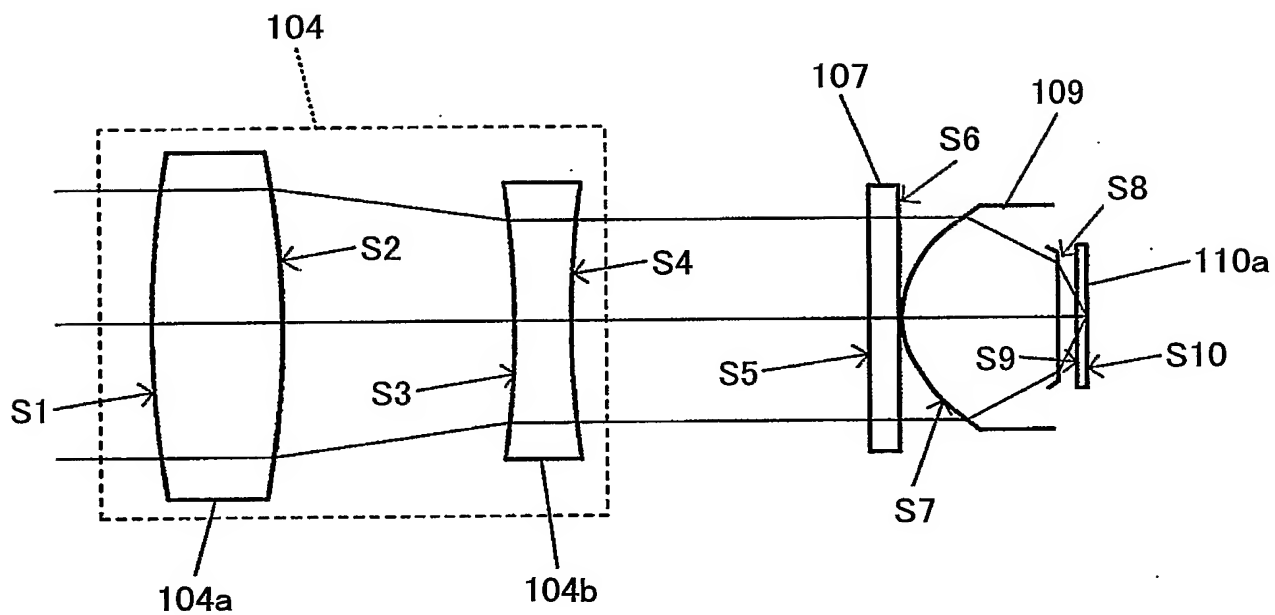
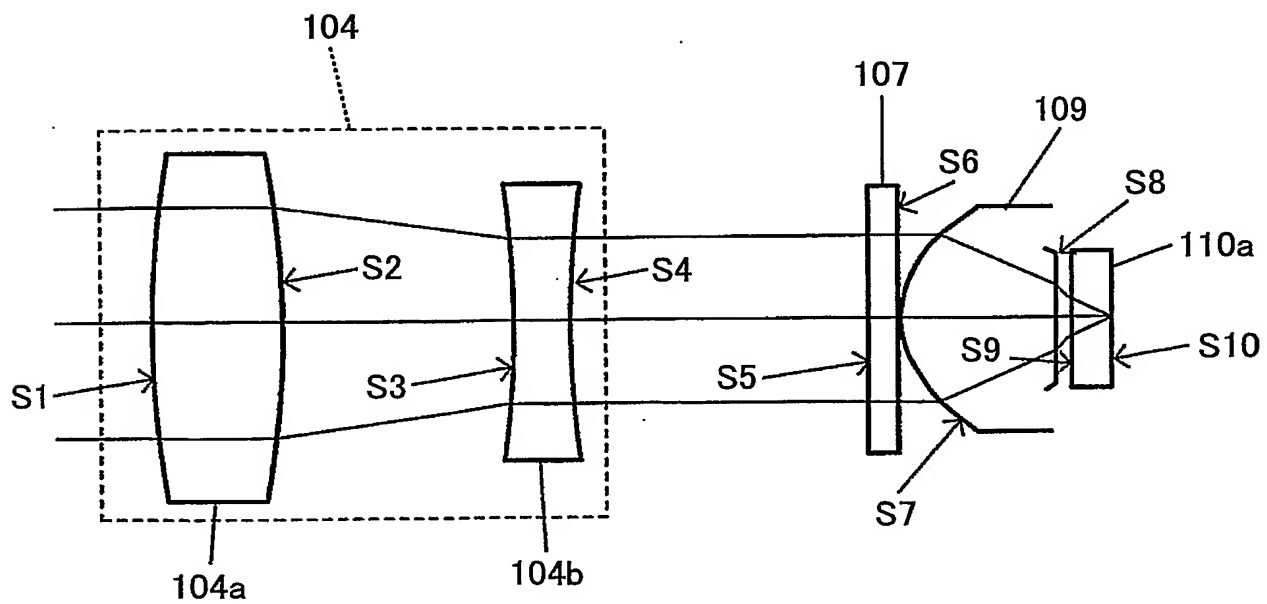


FIG.13B



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FIG.14

SURFACE	RDY (RADIUS OF CURVATURE)	THI (THICKNESS)	n(REFRACTIVE INDEX):405nm
OBJ	INFINITY	INFINITY	
S1	15.52	2.00	1.53
S2	-24.01	3.55	
S3	-15.67	1.00	1.80
S4	37.12	5.00	
S5 (STO)	INFINITY	0.6	1.72
S6	INFINITY	0.0	
	DIFFRACTION ORDER 0TH ORDER / 1ST ORDER (NOTE 1) DIFFRACTION SURFACE COEFFICIENTS C1: $8.0361 \times 10^{-3}$ C2: $-8.8252 \times 10^{-4}$ C3: $-1.0901 \times 10^{-3}$ C4: $-6.8601 \times 10^{-5}$ C5: $-3.8433 \times 10^{-6}$		
S7	1.38	2.38	1.72
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-0.671973$ A: $0.108576 \times 10^{-1}$ B: $0.887024 \times 10^{-3}$ C: $0.615641 \times 10^{-3}$ D: $0.305477 \times 10^{-3}$ E: $-0.235521 \times 10^{-3}$ F: $0.954484 \times 10^{-5}$ G: $0.403964 \times 10^{-4}$ H: $0.599180 \times 10^{-5}$ J: $-0.871198 \times 10^{-5}$		
S8	-4.24	-0.43/0.15 (NOTE 1)	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $15.973519$ A: $0.265234$ B: $-0.165180$ C: $-0.762341 \times 10^{-1}$ D: $0.119223$ E: $0.102416 \times 10^{-1}$ F: $-0.146044 \times 10^{-2}$ G: $-0.528214 \times 10^{-2}$ H: $-0.300544 \times 10^{-2}$ J: $0.292188 \times 10^{-2}$		
S9	INFINITY	0.1/0.6 (NOTE 1)	1.53
S10	INFINITY	0.0	
EPD:ENTRANCE PUPIL DIAMETER(mm)		3.0/2.3 (NOTE 1)	
WL:WAVELENGTH(nm)		405	

NOTE 1. 『/』 MEANS THE ORDER OF FIRST BLUE-RAY OPTICAL RECORDING MEDIUM /SECOND BLUE-RAY OPTICAL RECORDING MEDIUM.

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FIG.15A

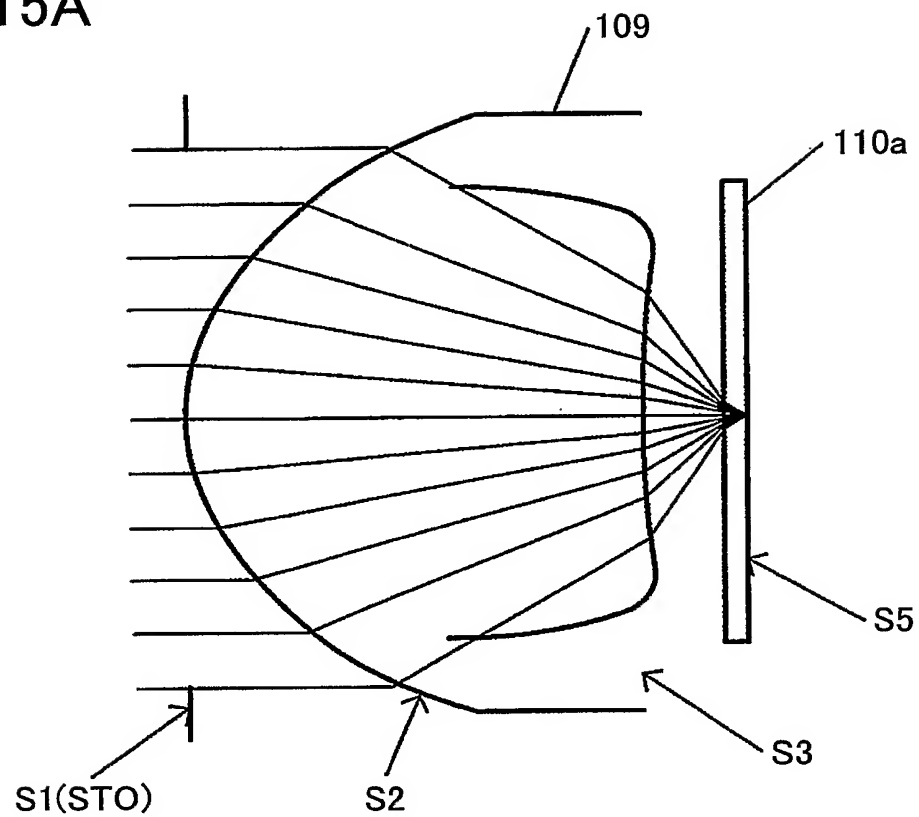
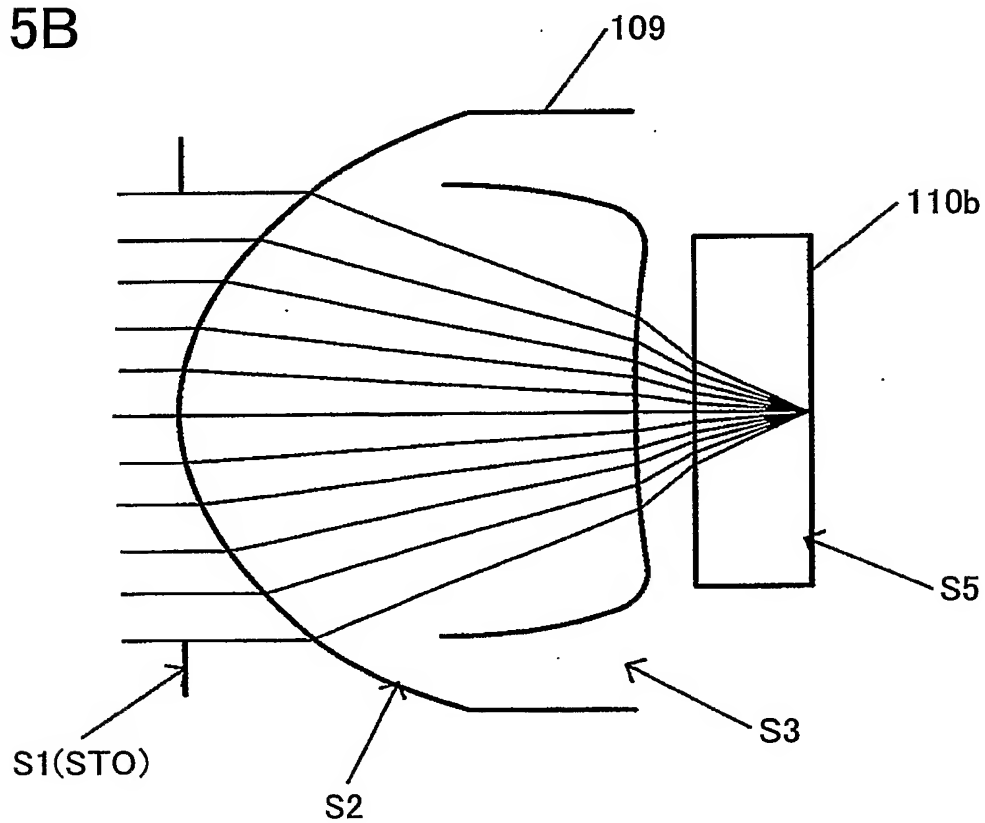


FIG.15B



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FIG.16

SURFACE	RDY (RADIUS OF CURVATURE)	THI (THICKNESS)	n(REFRACTIVE INDEX):405nm
OBJ	INFINITY	INFINITY	
S1 (STO)	INFINITY	0.6	
S2	1.38	2.38	1.72
	DIFFRACTION ORDER 0TH ORDER / 1ST ORDER (NOTE 1)		
	DIFFRACTION SURFACE COEFFICIENTS C1: $2.7423 \times 10^{-2}$ C2: $1.0502 \times 10^{-3}$ C3 : $-5.9391 \times 10^{-4}$ C4: $-3.7025 \times 10^{-4}$ C5: $1.2757 \times 10^{-4}$		
S3	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-6.6426 \times 10^{-1}$ A: $1.0604 \times 10^{-2}$ B: $2.1601 \times 10^{-3}$ C : $6.0889 \times 10^{-5}$ D: $4.8057 \times 10^{-4}$ E: $-7.7885 \times 10^{-5}$ F : $4.7808 \times 10^{-5}$		
	-4.80	-0.43/0.29 (NOTE 1)	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K:12.516971 A:0.279855 B:-.141274 C : $-.250439 \times 10^{-1}$ D:0.108911 E:-.801930 $\times 10^{-1}$ F : $-.146045 \times 10^{-2}$ G:-.528214 $\times 10^{-2}$ H:-.300544 $\times 10^{-2}$ J : $0.292188 \times 10^{-2}$		
S4	INFINITY	0.1/0.6 (NOTE 1)	1.53
S5	INFINITY	0.0	
EPD:ENTRANCE PUPIL DIAMETER(mm)		3.0/2.3 (NOTE 1)	
WL:WAVELENGTH(nm)		405	

NOTE 1. 『/』 MEANS THE ORDER OF FIRST BLUE-RAY OPTICAL RECORDING MEDIUM /SECOND BLUE-RAY OPTICAL RECORDING MEDIUM.



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FIG.17

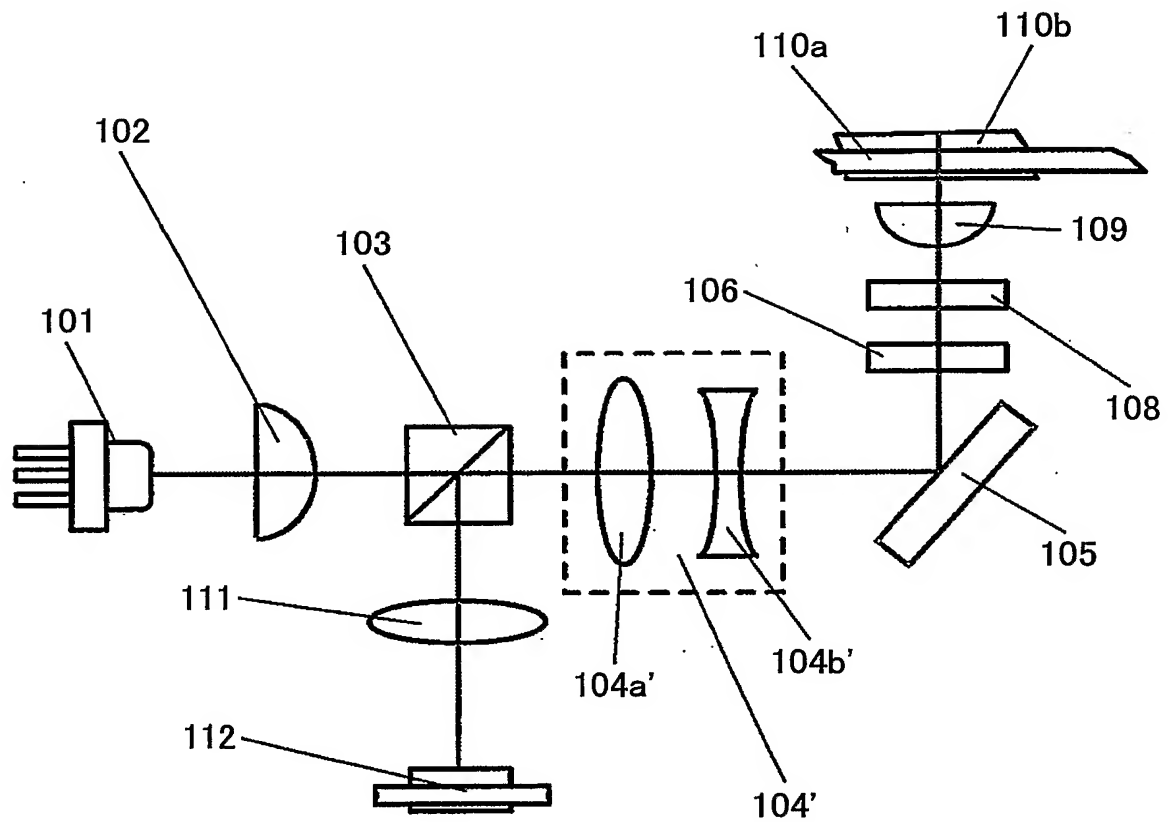
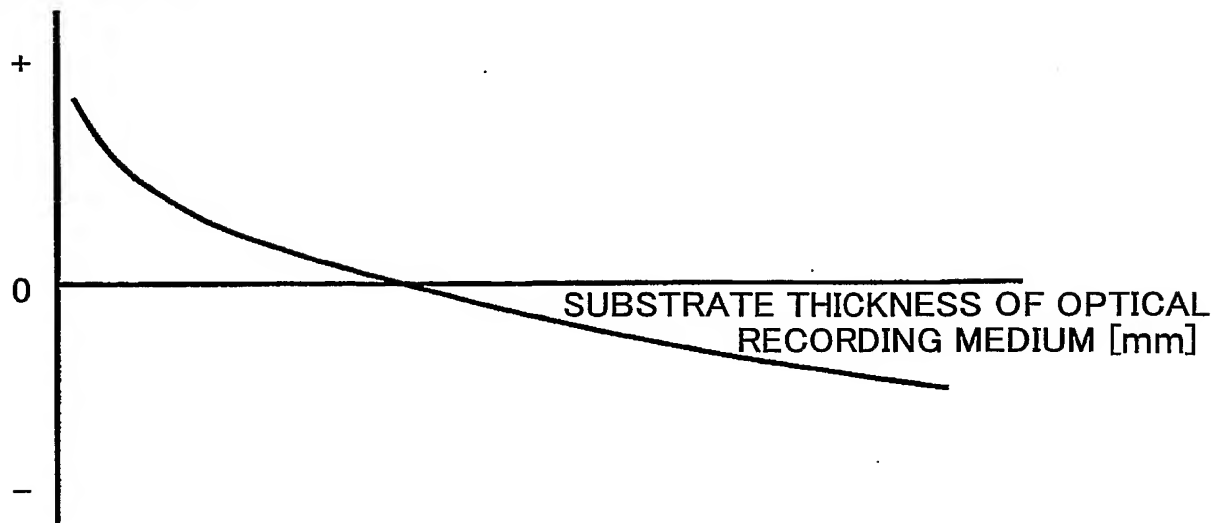


FIG.18

MAGNIFICATION



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FIG.19A

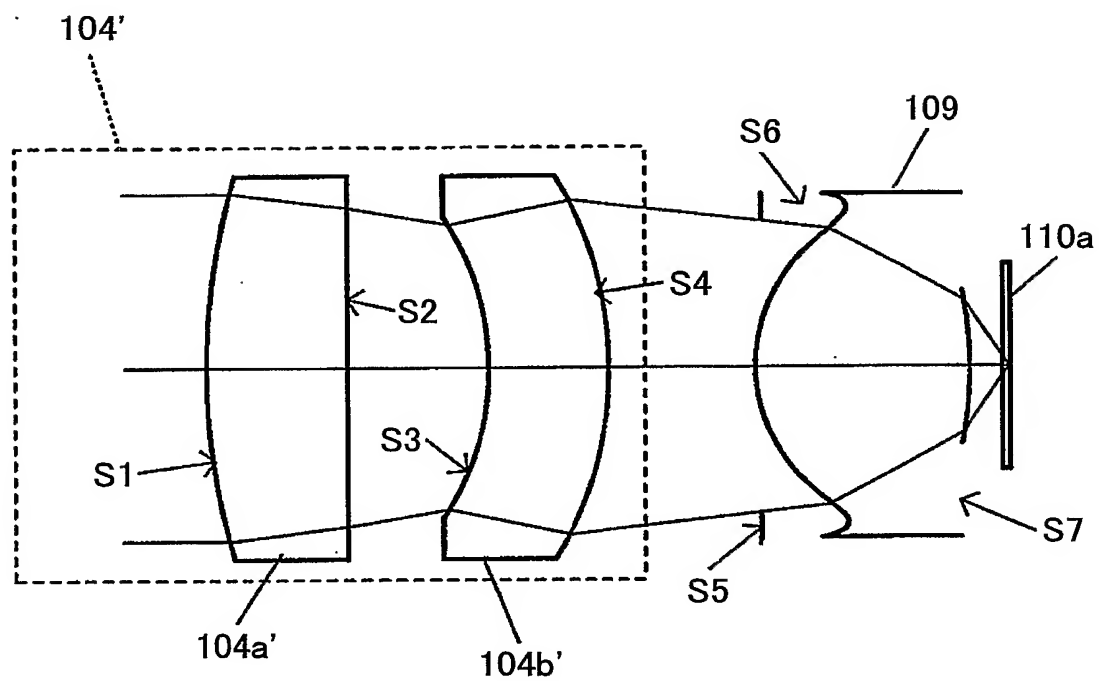
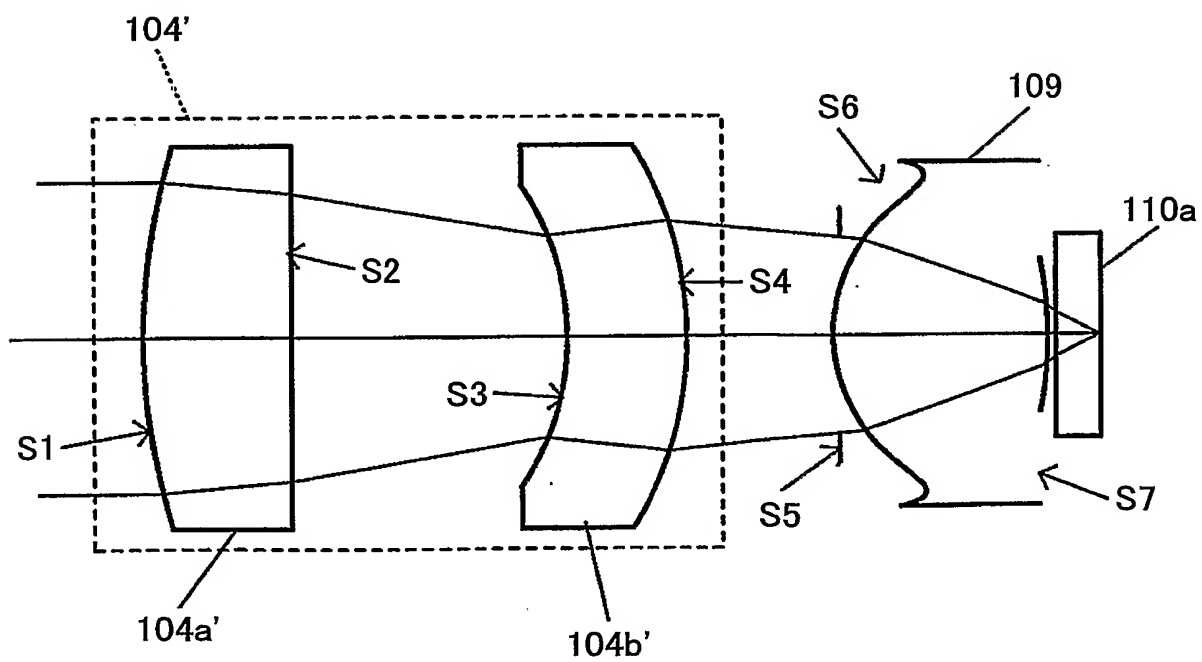


FIG.19B



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FIG.20

SURFACE	RDY (RADIUS OF CURVATURE)	THI (THICKNESS)	n(REFRACTIVE INDEX):405nm
OBJ	INFINITY	INFINITY	
S1	7.56	2.0	1.53
	ASPHERIC COEFFICIENTS OF LENS SURFACE K:0.972983 A: $0.371207 \times 10^{-3}$ B: $-.478667 \times 10^{-4}$ C : $-.901945 \times 10^{-5}$ D: $-.814374 \times 10^{-6}$		
S2	40.91	2/4.1 (NOTE 1)	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-.76.180141$ A: $-.551113 \times 10^{-3}$ B: $-.604159 \times 10^{-4}$ C : $-.264014 \times 10^{-4}$ D: $0.307055 \times 10^{-7}$		
S3	-3.54	1.7	1.80
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-.031141$ A: $0.286777 \times 10^{-3}$ B: $-.248176 \times 10^{-3}$ C : $-.146269 \times 10^{-4}$ D: $-.160400 \times 10^{-4}$		
S4	-4.35	0.0	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-.0751196$ A: $-.557062 \times 10^{-4}$ B: $-.818406 \times 10^{-4}$ C : $-.451735 \times 10^{-4}$ D: $0.195625 \times 10^{-5}$		
S5 (STO)	INFINITY	0.6	1.72
S6	1.90	2.90	1.72
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-.0638807$ A: $0.515357 \times 10^{-2}$ B: $0.536542 \times 10^{-3}$ C : $0.155822 \times 10^{-4}$ D: $0.693345 \times 10^{-5}$ E: $-.144620 \times 10^{-4}$ F : $-.464699 \times 10^{-7}$ G: $0.607353 \times 10^{-6}$ H: $0.816724 \times 10^{-7}$ J : $-.863344 \times 10^{-7}$		
S7	-5.49	0.51/0.12 (NOTE 1)	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K:27.747443 A:0.181893 B: $-.209173$ C : 0.152146 D: $-.292109 \times 10^{-1}$ E: $0.432555 \times 10^{-3}$ F : $-.346960 \times 10^{-4}$ G: $-.705877 \times 10^{-4}$ H: $-.225917 \times 10^{-4}$ J : $0.123545 \times 10^{-4}$		
S8	INFINITY	0.1/0.6 (NOTE 1)	1.53
S9	INFINITY	0.0	
EPD:ENTRANCE PUPIL DIAMETER (mm)		3.8/2.3 (NOTE 1)	
WL:WAVELENGTH (nm)		405	

NOTE 1. 『/』 MEANS THE ORDER OF FIRST BLUE-RAY OPTICAL RECORDING MEDIUM /SECOND BLUE-RAY OPTICAL RECORDING MEDIUM.

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FIG.21

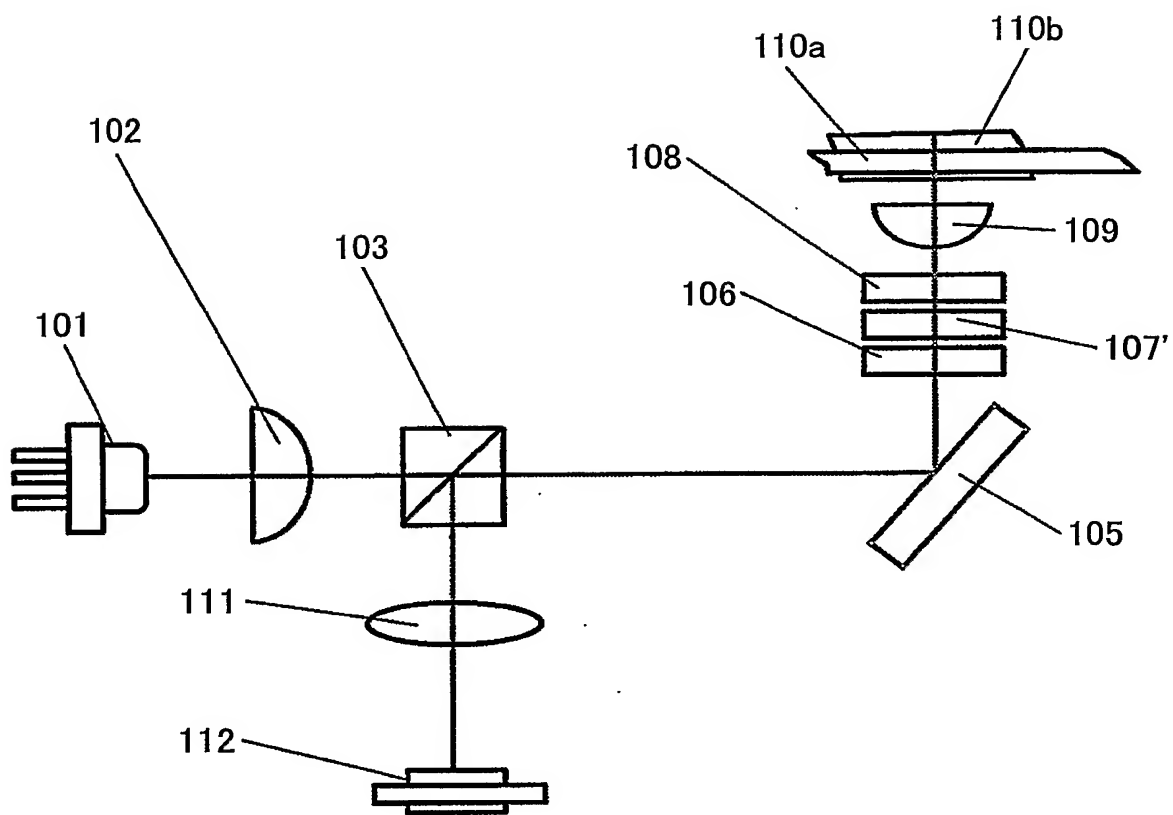
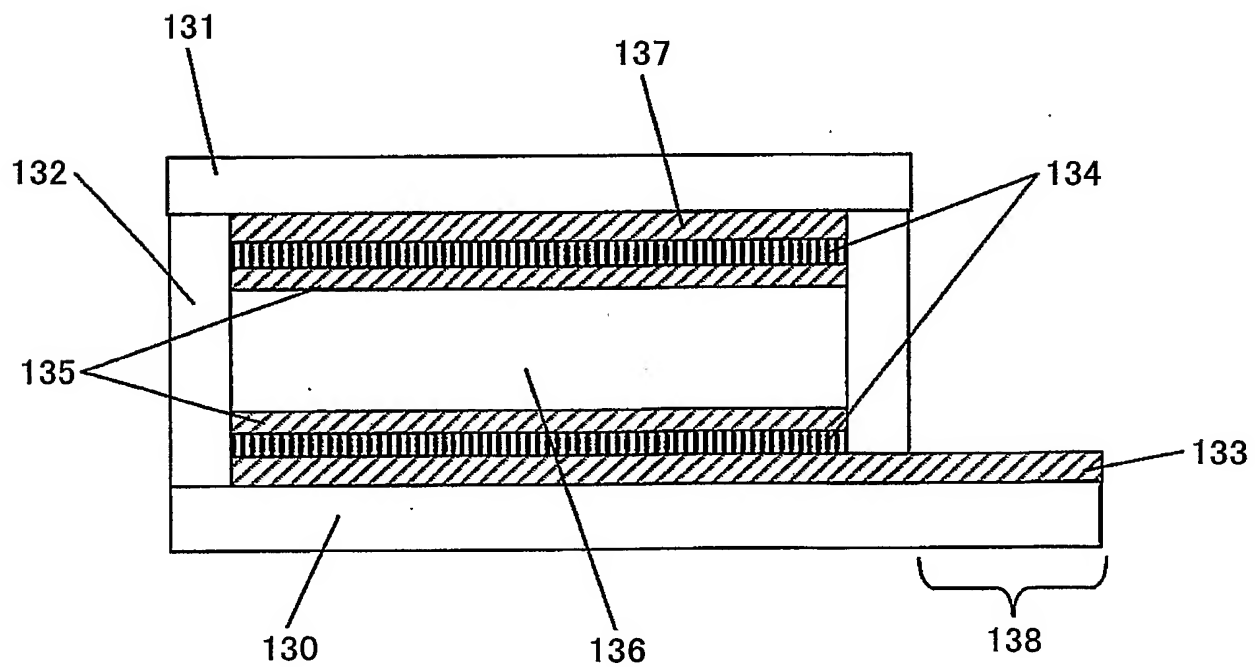
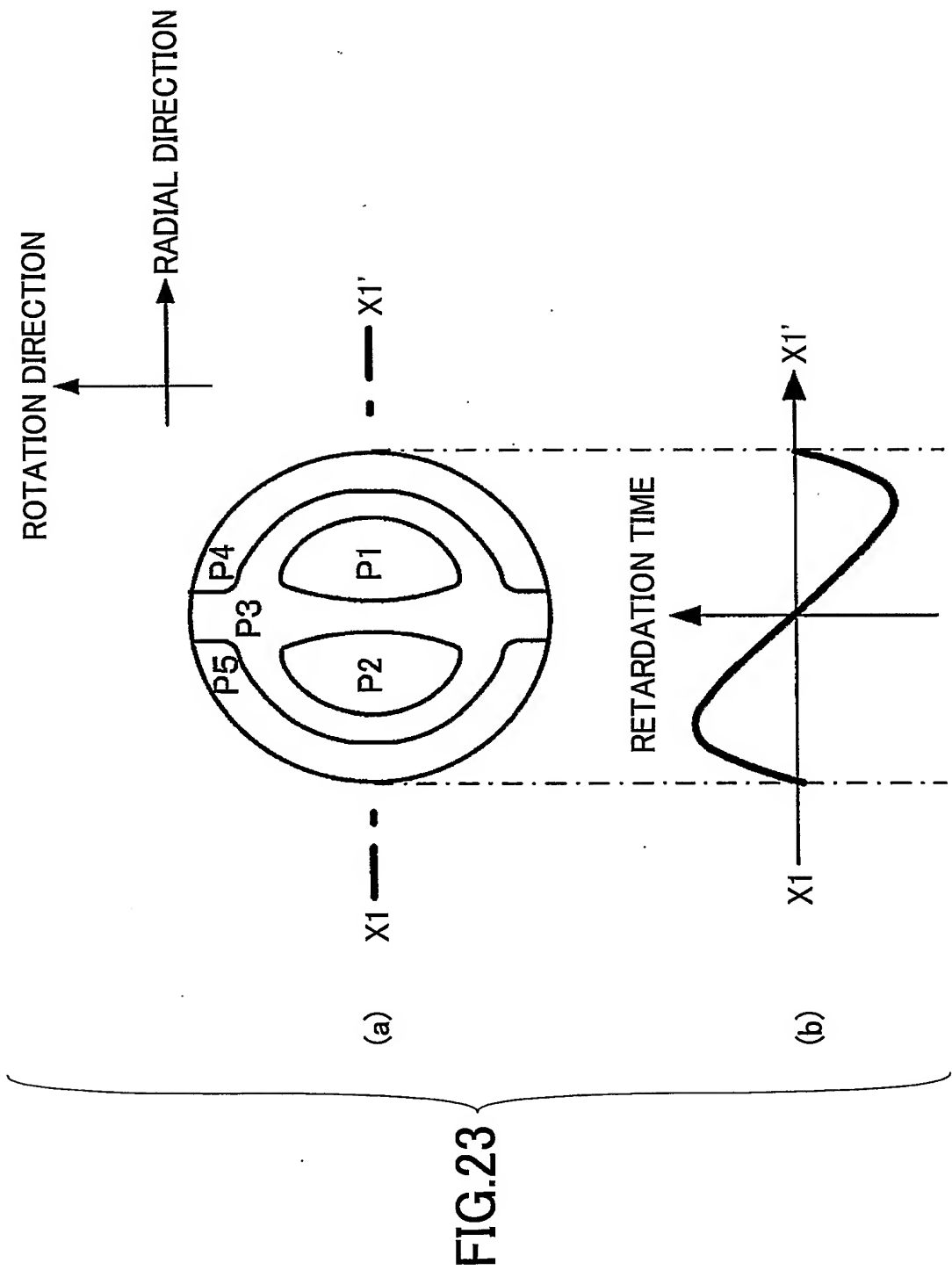


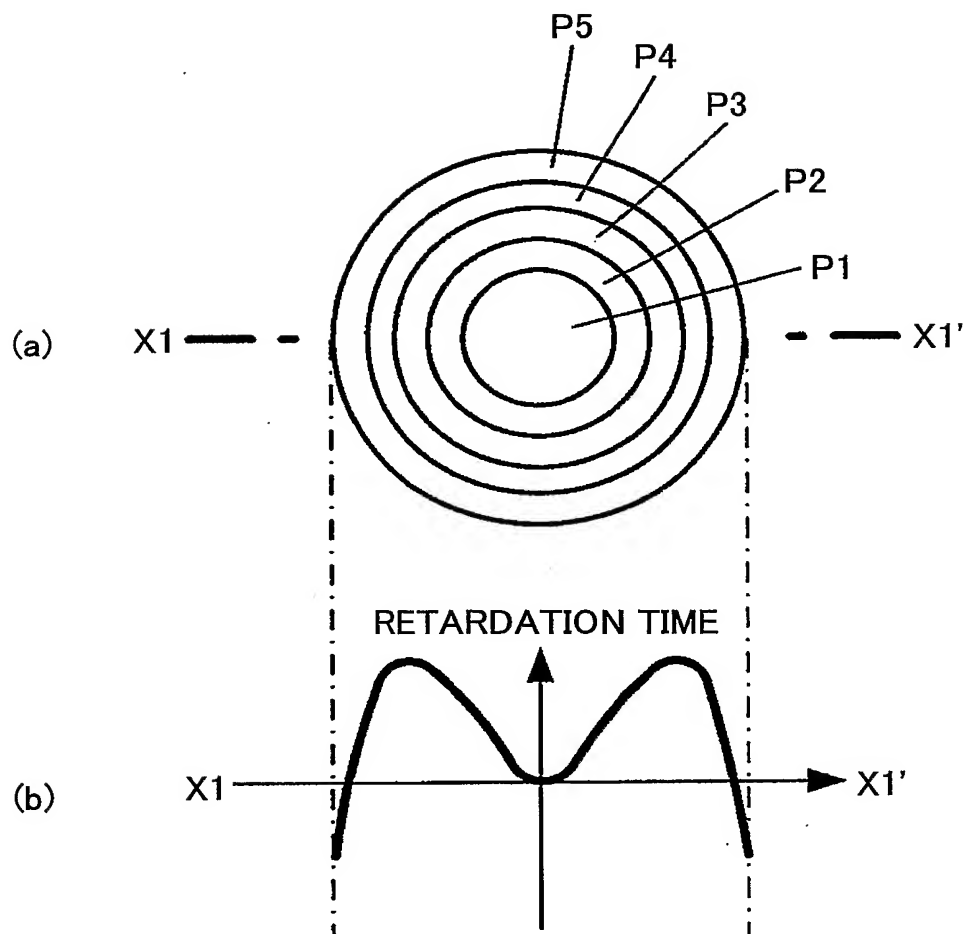
FIG.22

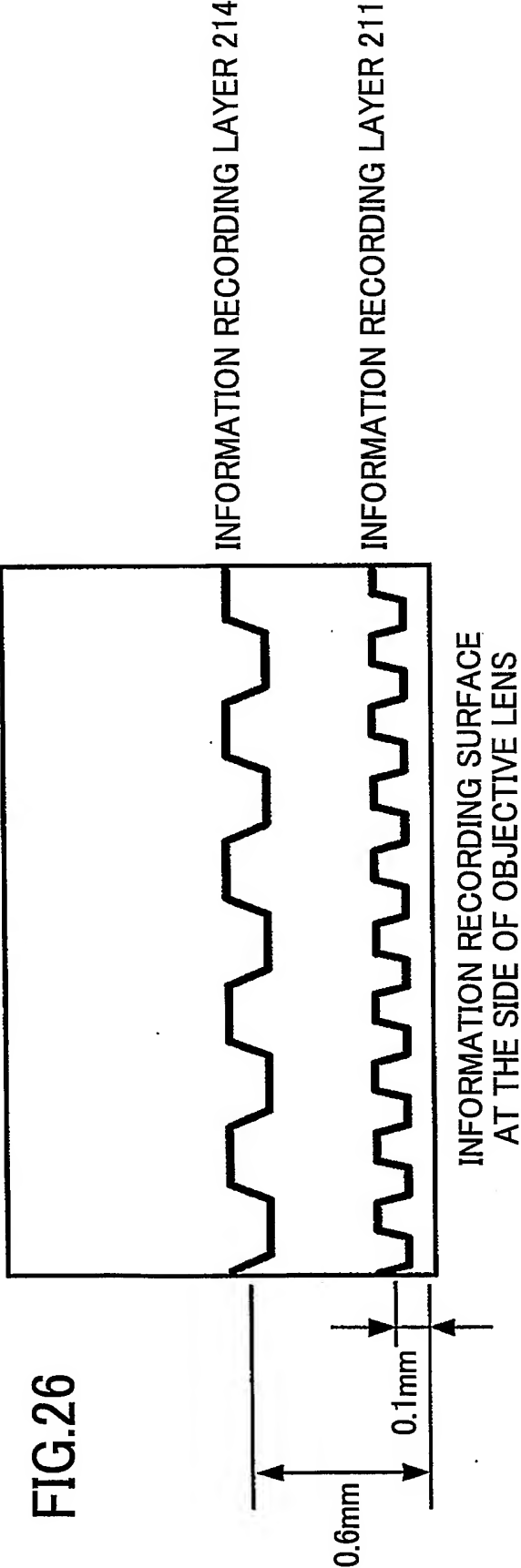
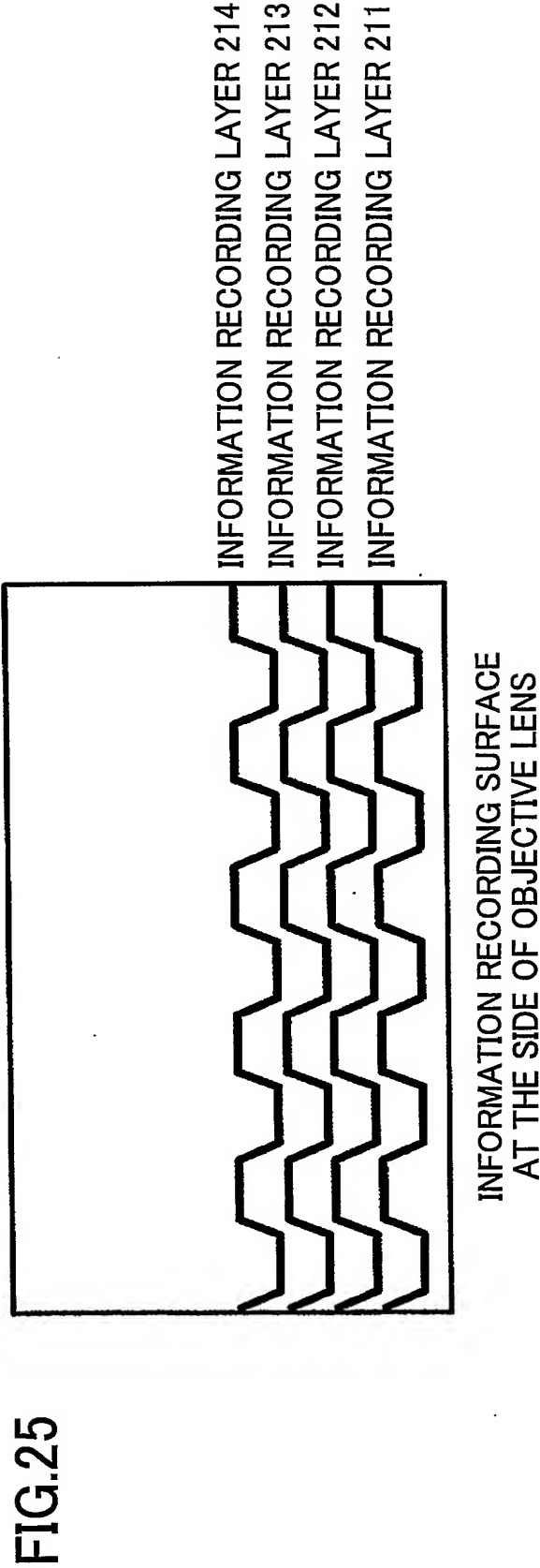




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FIG.24





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FIG.27

